

Notice of Allowability

Application No.

10/789,088

Examiner

Jacob Y. Choi

Applicant(s)

TAMAI ET AL.

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to September 27, 2006.
2. ☒ The allowed claim(s) is/are 7, 10-12 and 14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

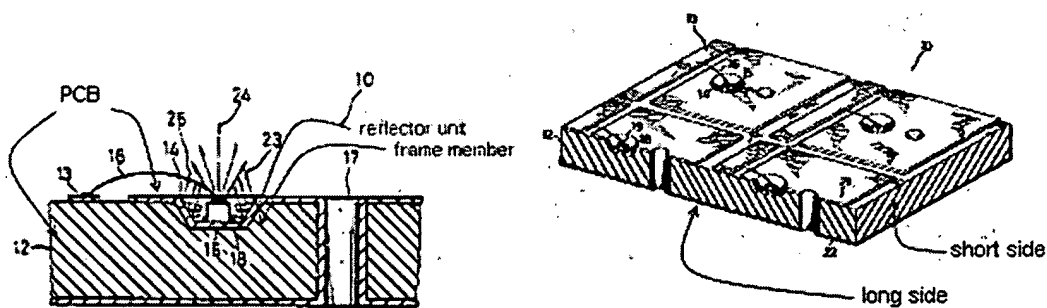
1. The following is an examiner's statement of reasons for allowance:

Claim 7 recites – “A light source unit comprising: a printed circuit board; a wiring land formed on said printed circuit board; a light-emitting diode (LED) element surface-mounted on said printed circuit board; a bonding wire connecting between said LED element and said wiring land; and a reflector unit comprising a rigid frame member and a reflector, said reflector unit being surface mounted on said printed circuit board to surround said LED element and being fabricated independently of said printed circuit board to improve rigidity of said frame member, wherein said reflector unit being formed integrally with said frame member so that said reflector unit can be arranged relative to said LED element with accuracy and without change over time to provide a uniform and stable reflecting face configuration; wherein said reflector is connected to an inner side of said frame member and supported by said frame member, said reflector being arranged between said LED element and said wiring land for directing a beam emitted from said LED element toward an object to be illuminated, wherein said frame member comprises a rectangular frame member having long-side portions and short-side portions, wherein said reflector is arranged along said long-side portions and rigidly formed in unison with said frame member, wherein said LED elements are arranged to form an LED array, and wherein said reflector has a reflecting surface extending along said LED array.”

Chen (USPN 5,119,174) teaches a printed circuit board (PCB; e.g., 21, 22, 12 & 13), a wiring land (e.g., Figure 1) formed on the printed circuit board (e.g., 21, 22, 12 & 13), a light-emitting diode (e.g., 15) element surface-mounted on the printed circuit board (PCB), a bonding wire (e.g., 16) connecting between the LED element and the wiring land (e.g., Figure 2-3), and a reflector unit (e.g., 14) mounted on the printed circuit board (e.g., PCB) surround the LED elements, the reflector unit comprising, a rigid frame member (e.g., 12; “PCB base”), and a reflector (e.g., 14) connected with an

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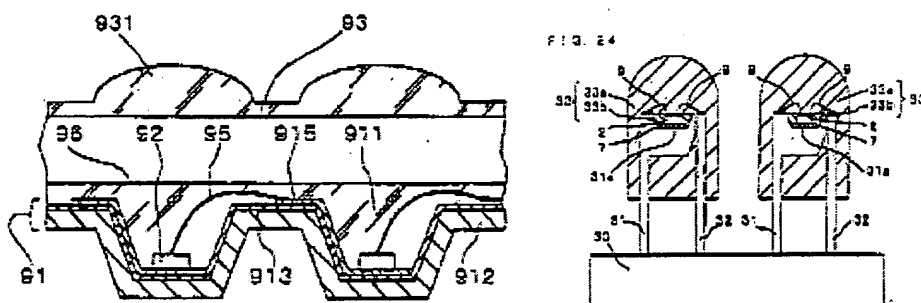
inner side of the frame member (12) and supported to the frame member (e.g., 12), and reflector (e.g., 14) being arranged between the LED (e.g., 15) element and the wiring land (e.g., Figure 1) for directing a beam emitted (e.g., 23-25) from the LED element toward an object to be illuminated (e.g., "display area") wherein the frame member comprises a rectangular frame (e.g., Figure 1) member having long-side portions and short-side portions, wherein the reflector is arranged along the long-side portions and rigidly formed in unison with the frame member, wherein the LED elements are arranged to form an LED array, and wherein the reflector has a reflecting surface extending along the LED array.



Sugimoto et al. (USPN 6,874,910) teaches a printed circuit board (e.g., 91), a wiring land (e.g., Figure 25) formed on the printed circuit board (e.g., 91), a light-emitting diode (e.g., 92) element surface-mounted on the printed circuit board (e.g., 91), a bonding wire (e.g., 95) connecting between the LED element and the wiring land (Figure 25; e.g., 915), and a reflector unit (e.g., 913; column 3, lines 20-40; "the insulating layer which may interrupt the effect of heat radiation (light) ... the die bonding paste is commonly a silver particles dispersed resign material ... etc") mounted on the printed circuit board (e.g., 91) surround the LED elements, the reflector unit comprising, a rigid frame member (e.g., 912; aluminum) and a reflector (e.g., 913) connected with

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an inner side of the frame member (e.g., 912) and supported to the frame member (e.g., 912), and reflector (e.g., 913) being arranged between the LED (e.g., 92) element and the wiring land (e.g., Figure 25) for directing a beam emitted (e.g., 931) from the LED element toward an object to be illuminated (e.g., "display area") wherein the frame member comprises a rectangular frame member having long-side portions and short-side portions (e.g., Figures 1b, 12b, 13b), wherein the reflector is arranged along the long-side portions and rigidly formed in unison with the frame member, wherein the LED elements are arranged to form an LED array, and wherein the reflector has a reflecting surface extending along the LED array.



Applicant's arguments, see pages 4-9, filed September 27, 2006, with respect to claims 7, 10-12 & 14 and specification have been fully considered and are persuasive (e.g., "... Applicant respectfully submits that neither Chen nor Sugimoto independently or in combination teaches or suggest a reflector unit "being fabricated independently of said printed circuit board," ... "being formed integrally with said frame member so that said reflector unit can be arranged relative to said LED element with accuracy ..." etc.)). Because none of the references disclosed the details of the reflector unit integrally formed with the frame member and its reflector, nor is there any motivation to combine them, the claims are deemed patentable over the prior art of record. The claim

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rejections - 35 USC § 112, 102 & 103, claim objections, specification objection under 35 U.S.C. 132(a) of July 5, 2006 has been withdrawn.

2. Claims **7, 10-12 and 14** are allowed.
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Amendment

4. Examiner acknowledges that the applicant has amended claims 7 and 11-12. Currently, claims **7, 10-12 and 14** are pending in the application.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y. Choi whose telephone number is (571) 272-2367. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Y Choi
Examiner
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JC



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800